university news

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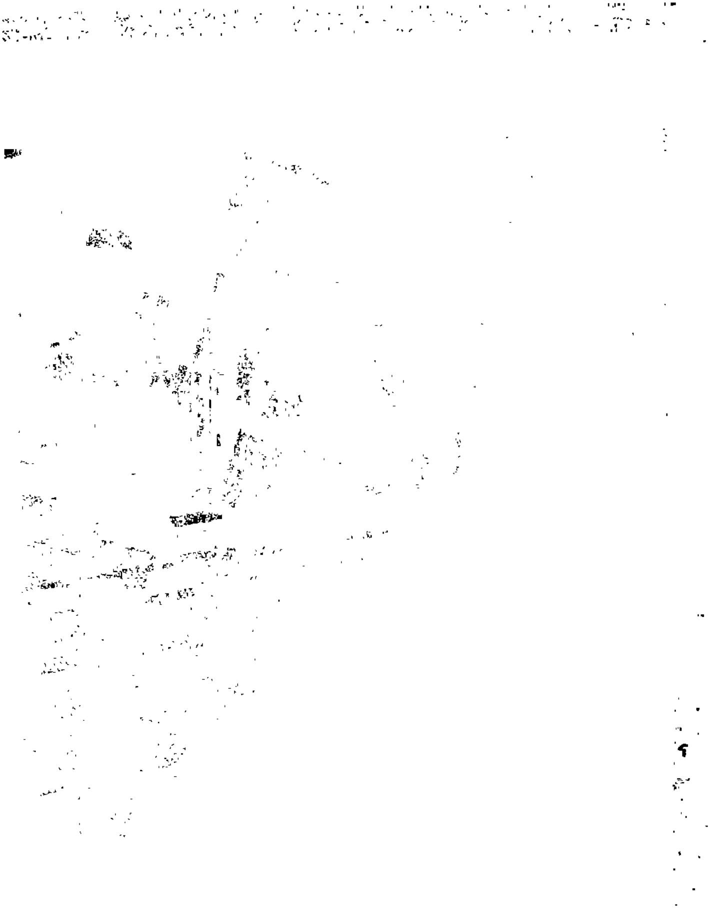

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- Faculty Status
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in Indian Sp

B. D. Nag Chaudhuri, Vice-Chancellor of Jawaharlal Nehru University delivering the convocation address at Kanpur University.

UNIVERSITY NEWS

Vol. XV **FEBRUARY 1,**
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Opinions expressed in the articles and reviews are individual and do not necessarily reflect the policies of the Association.

Editor : ANJNI KUMAR

AIU meets at Coimbatore

The 52nd Annual Session of the Association of Indian Universities followed up the inspiring lead of the Union Finance Minister, Shri C. Subramaniam on the urgent and pointing theme 'Universities and the Rural Community'. At one Seminar it discussed the programme of integrated rural development and the role that the Universities would play in this regard under the leadership of the Agricultural University in each State. Several Vice-Chancellors reported on their experiences. Each one of them was emphatic on the point that wherever the University or a College adopted a village and worked according to an integrated plan had been salutary. The Seminar recommended that the experiences gathered in this behalf so far may be shared amongst Universities through direct exchanges and through the Association, so that Universities will have three functions : teaching, research and service to the Nation.

The work being done by the N.S.S. was widely welcomed and appreciated partly as an aspect of educational endeavour and partly as a contribution by the University and Colleges to the community. Papers on the working of the N.S.S and the N C.C. were presented by experts in the field. After a discussion lasting over 4 hours, the following decisions were taken.

(a) The relative role of the N. C. C., N. S. S. Sports and Cultural activities are matters which require to be discussed further and asked the Standing Committee to prepare a plan of action in this regard.

(b) It was felt that the allocation of resources by the Union Government for the different parts of the programme required to be reviewed and rationalised.

(c) In order to involve the teachers better in these programmes it was recommended that their expertise be doveloped with the help of University Grants Commission and the Union and State Governments.

(d) The proposal to develop academic and non-academic credits for these programmes was referred to the Standing Committee for further concentration.

It may be recalled that one day before the meeting of the Association the I.U.A.C.E. (Indian Universities Association for Continuing Education) had emphasised the great liberating role of non-formal education in involving the university in our rural society.

This is the first time that the Vice-Chancellors have met in an Agricultural University, where they saw for themselves in the University farms, laboratories and demonstration units, how the University can serve the humanity.

Dr. Shiv Mangal Singh 'Suman', Vice-Chancellor of Vikram University was elected the President. The next session of the Association would be hosted by Ranchi University at Jamshedpur in January 1978. ●

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Students Evaluation and Internal Assessment

A. S. Kahlon*

In an attempt to overhaul the existing system of external examination, several educationists have recommended that an internal system of examination should partially replace the external system of examination. Experience shows that a fractional internal assessment along with external examination is not adequate and has not produced the desirable results. Here in the Punjab Agricultural University, we have completely replaced the external system of examination with an internal system of assessment. Since this experience has proved to be a great success, through this article I wish to share our experience with the rest of the educational world.

The organisational and educational theories tell us that a little bit of internal assessment which is tagged on to external assessment system in the traditional educational structure is neither here not there. If this system tempts some teachers to put higher grading on internal assessment, we would not be greatly surprised. Its major component is practical work which has only a small weightage in the total system. But in all such institutions where a full blooded vigorous internal assessment system is working, a teacher knows that if he has all the power, he has all the responsibility too. Moreover, the system provides quite a few safeguards (discussed in a later section) which can build up the trust of the student in the system and keep it going.

It is recognised that evaluation of any system and particularly in the early stages of a programme, should form an integral part of any activity if it is to succeed. For each job there is a goal and in education the goals are fixed on the basis of the needs of the society. Educational programmes and the associated evaluation system should, therefore, be so designed as to help the students reach these goals in the most efficient manner.

The success of any educational programme largely depends not only on the cultivation of faculties of a student for a professional career but also on preparing him for a useful role in the society through proper development of his total personality. This purpose is basic and any external examiner, who is not acquainted with the behaviour of a student both in the classroom and the laboratory, will always find it difficult to determine the extent to which these educational objectives have been served through an evaluation system.

Any restructuring of the system and instruments of examination should, therefore, have an orientation to the following fundamental principles.

(a) A scientific system of examination should have the flexibility of the teacher being able to add the more recent development in his course outline as his own knowledge of the subject grows with experience which is possible only in the internal assessment system.

(b) The evaluation system should build up trust in the mind of a student about the objectivity of the system not only in theory but in practice. All this can be best done if the concept of evaluation helps in using the examination as a means rather than as an end in itself. These objectives can be achieved through an internal system of students evaluation in the following ways.

  (i) appraise the student's personality in order that the student can fully appreciate the needs of the society;

  (ii) assist in the evaluation of personal characteristics in addition to those which are needed for success in a chosen field;

  (iii) give an accurate comparison of an individual performance relative to that of others;

  (iv) improve the basis of prediction of success in the educational, occupational and professional spheres;

  (v) evaluate achievement of growth both for the individual and the group;

  (vi) identify the student's capacity, his potentiality as well as his limitations.

The techniques employed for student's evaluation should achieve these objectives and build up the confidence in the mind of a student about the objectivity of the system. This is much more dependent upon the validity and reliability of the test based on the frequency of examinations and their spread over the unit of the course offered, the length of the unit course and not just on whether the examiner is external or internal.

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* *Dean, PAU, Ludhiana*

Safeguards in internal assessment

Theoretically, it would appear that an external examiner in traditional system would have more objectivity because he does not know any of the candidates. But just because the internal examiner knows his student, knows his performance in and out of the classroom, knows the subject matter that has been taught to the student, does not make him more subjective in his judgement. In fact, the system helps a teacher to make a correct assessment of the student's total personality, capability, capacity and performance.

In this system the teacher returns the graded script to all the student with his observations and positive suggestions on every question which helps each student to know not only why he got lower marks than the other but also make further improvement on his performance. In fact, the model answers to the questions are discussed in the classroom and the student knows why he lost marks on certain points. All this is assured through a system of safeguards which are kind of built-in stabilizers in the evaluation system. In case of any discrepancy of under marking or over marking, the students are free to bring this to the notice of the teacher concerned. In the traditional system of external examiner, no such communication between the teacher and the student was possible.

Again, in case of internal assessment, the grades earned by each student are discussed by the instructor with the Head of the Department and the Dean of the constituent colleges. This procedure minimises the chance of so called "a self certificate that under his wonderful teaching none need fail". The observations that in the internal assessment the students are awarded marks for extra academic considerations such as personal likes and dislikes, caste and community and payment of money for private tuition are not based on any empirical study. These are just hunches. On the other hand we have worked with the internal system for several years in the Punjab Agricultural University and have very rarely come across such abuses by the teachers. Once a teacher is trusted with full reponsibility, he has discharged it with as much objectivity as any other system can claim Exceptions may be there but they can occur in any system. There is however, a very little chance of a student getting extra academic consideration in the internal system where every student's capability and performance is known to his fellow students and the system operates like an open book.

Adequate preparation is necessary

Experience shows that most of the lapses occurred only in such situations where an intitution had not made adequate preparation before launching an internal assessment system. Around the year 1964 when the PAU made a switch over to the internal system as a necessary component of the trimester system, there were many teachers who were not exposed to this system. Recognising that adequate preparation was necessary for the success of any system, intensive training of the trimester and internal assessment systems was imparted to all such teachers who were not a product of this system. Such training programmes are repeated after suitable intervals, particularly to expose those members of the faculty to this system who have joined recently and who are new to the system.

Likewise, the students are exposed to internal assessment system when they join the college, which is followed up by continued guidance of the advisers in smaller groups of students. We would urge on every institution to go through such a process when it is planned to switch over to an internal system of examinations.

Letter grades

Every script is marked and each question or part of the question carries some definite marks. The grade is awarded on the basis of total marks obtained not just in one examination, but in all the examinations conducted for a unit of a course. Point estimates are not considered exact in any estimation techniques and should be discounted in any evaluation system. The cut off points used in awarding the letter grades are based on normal distribution which is rated much better method in scientific evaluations.

The main attack on the internal assessment system is that in this system the teacher has no fear for himself and he is a judge and jury of his own work. Also, the teacher may not finish the unit of the course in this system, because the assessment ultimately depends on him. This seems to be jaundiced view Any one familiar with the system would know that on the very first day, when the class meets in this programme, the teacher distributes the cyclostyled copies of the course outline dealing with the subject matter to be taught each week and the schedule of examinations is given for the whole trimester. In this process it would make it difficult for any teacher to leave his course unfinished. We would like to add that wherever such lapse occurred on the part of a teacher, the students did not hesitate to bring it to the notice of the Dean. I have no doubt in my mind that if the University Administration remains vigilant about these matters, such lapses will be very rare. Thus an over-view of the whole system would show that the grading and the evaluation techniques followed in case of internnl assessment are in many ways superior to the traditional system and have proved to be a better instrument of education than can possibly be achieved through the external examination system.

Students Participation in Varsity Governance in Australia

S. Santanagopalan†

A university is described, very simply, as a society or association of men and women engaged in a common pursuit, namely learning in its widest sense. Students form an important factor in education, especially higher education. This has been fully recognised by the educational authorities in Australia and appreciated by the student community.

During my recent visit to universities in Australia, New Zealand, Malaysia and Singapore under the Commonwealth Universities Association Administrative Travel Fellowship, I found that students in Australian universities are given freedom of expression and representation on the various authorities, including the selection committee which is responsible for appointment of teachers. Students are allowed to manage the affairs of the students' union. The union organises a number of activities which aim at providing relaxation, entertainment and intellectual stimulus for the students. The students publish their own magazine in which they express their opinions freely and frankly on all matters affecting the welfare and progress of the student community in the university both academic and administrative.

The desirability of student membership on various academic bodies has been accepted in all the universities in Australia and New Zealand by the Deans and Heads of Departments. The Australians feel that "opportunity should be given for consultation between staff and students at the departmental level about the general range of topics of particular concern to students including curriculum, course requirements and planning, teaching methods, textbooks and term requirements".

Generally, it is noticed that in many countries some aspect of student activities leads to disruption to normal functioning in many universities. This has been avoided in Australian universities and this is largely due to the openness and flexibility shown by the university authorities in their response to new ideas and also to the restraint, generally shown by public authorities when they are involved. Actually real benefits have accrued from more active role of students in university decision-making.

In the University of New South Wales (Sydney), three members of the University Council, (which is similar to the Syndicate of our universities) are students and they are elected for a two-year term of office. Degree students in each faculty elect three representatives. In the University of Newcastle, there are student representations both on the council and the principal academic body. In the University of Adelaide, there are four student representatives elected by the under-graduates on the Council and student representatives are associated with almost every committee of the university.

A special feature of the Australian National University is that the Heads of Departments develop both formal and informal method of communications and contact between staff and students. Some of the departments have a Departmental Committee which include student members.

Similarly in the universities in New Zealand, there is full participation of students in the governance of the universities In the University of Canterbury, the Council includes the President of the Students' Association. Even the academic body of the university, i.e., Professorial Board, which is charged with furthering and conducting the work of faculties and departments, have three student observers, who from 1973, have become full members.

There is a genuine view that the question of student participation in university administration should not be treated piecemeal. It is essential for students' opinion to be expressed and considered at all stages of the decision-making process. The university should be "not only a community in which the ability of administrative and academic staff is respected, but also a community in which the needs and aspiration of the students are communicated, understood and respected".

If decisions are made by committees with which students have little or no contact, it would create a sense of remoteness. Hence, it is believed that direct participation by students on such committees is necessary if genuine university community is to be fostered and strengthened.

The benefits of students' participation in university government are twofold : firstly, the students member on different bodies will assist these bodies in presenting the viewpoints of students on issues of direct relevance to their lives and careers; secondly, student membership on such bodies involves students in the responsibility for decisions taken.

Realising the importance of this question, some of the Indian universities have made a beginning by providing representation to students in some of the bodies of the universities. Some others have set up Students Advisory Committees and thus provide a forum for expression of students' opinion. It is stated that such a system fucntions well. Hence, it is for the other universities to take up this matter and make

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Faculty Status for Librarians

B. K. Kaul*

Man's first storehouse of knowledge was a verbal one. The long tales that were told around camp-fires became the *Iliad* and the *odyssey*. Writing bagan with the hieroglyphs of the clay tablets of Babylonia and progressed through all the many stages of alphabets, languages and technology of today. With the ability to actually transcribe, the record could be kept with exactitude and preserved so that each new generation could begin for ahead of its parents in culture and technology. The library has been the instrument over the long period of recorded history to organise and make available this collective consciousness of mankind. It has adopted the role of cultural foreseer. looking into man's present and future and trying to make more visible and human the unknown and the fearful around us and ahead of us. Its job is to integrate a man with his present, thereby giving him a future, not to reconcile him with his past.

An academic library does not exist as an independent institution in itself. It derives its objectives from the institution of which it is a part. It becomes increasingly effective as teachers and students learn to use its resources and utilise its services. It stimulates, guides and encourages boys and girls in all phases of their reading to enable them to find increasing enjoyment and satisfaction. grow in critical judgement and appreciation. It provides an opportunity through its experiences for the pupils to develop helpful interests. make satisfactory personal adjustment and acquire desirable social attitudes

A college or university library is mainly established to provide necessary library materials and services to support the teaching and research programmes of the institution, with leisure and recreation aspects of secondary importance. Theoretically, the students should be the principal beneficiaries. In practice, however, most libraries are more responsive to faculty and research staff needs than those of the students.

Indepedent study has always been the fundamental concept behind libraries, "the right book for the right reader at the right time", still sums up the best basis for developing library service. It too has strirred librarians to improve faculty book selection, and to seek short cuts to better acquisitition, processing and circulation of materials.

With the passing of classroom as the centre of learning, the librarian can persist in his ancillary role of retrieving books ever more vigorously and can assume his initiatory position in the learning process recognising that he is better equipped to guide the student to the self-education in the library than are most of his colleagues in the faculty. The librarian's better equipment for the learning process stems basically from his superior knowledge in knowing where to find it. The librarian is again better equipped than most of his teaching colleagues. Concern over increasing specialism has integrated areas in general education such as Humanities and Social Sciences, Natural Sciences, Physical Sciences etc. The extreme, commitment of our faculties to predatory subject specialisation often confuses an undergraduate with the universe full of specialism but only in the library is the unity of knowledge restored.

All library services properly conducted and administered contribute to teaching. When a librarian assembles material for students use, directs a student to the best source of information on a subject, or instructs the student in the use of materials which will help him to help himself he is not 'merely a service officer without any independent intellectual function of significance, but one with definite and positive duties in the field of instruction'.

The librarian's role as teacher relates to the orientation to the library, instruction in skills and the use of materials, examination's help in independent study, introduction of materials of special interest and procedures for mass assignments. Emphasis on the importance of open-stack principle; library and reading studies to determine library efficiency; teaching effectiveness; student reading ability and interest; library guidance and counselling services and improving the ability of students to read intelligently are some of the chief teaching functions of the library. Besides, librarians have undertaken various publicity media to obliterate the general conception that 'he hands out the books at the counter. only'. The librarians interpret the library services through personal contact between the groups they serve. They use the abstract, theoretical, philosophical level of skills for which they are professionally trained.

The library staff, whenever they aid a student in making use of library resources, or whenever, they assist a faculty member in the compliation of a syllabus by suggesting bibliographical sources are serving as faculty, aiding in the transmission of knowledge and prodding young minds to evaluate resources and engage in cognition, they are faculty in the strict sense of the word.

There are growing number of outstanding professors; if given a chance, go into separate research institutes running parallel to universities, so that they could fully concentrate on their primary interests and not have to teach. If this becomes a trend, college and university students would have to depend

(Contd. on page 68)

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Sport Medicine in Indian Sports

Physical Education and sports play a very important factor in the intellectual development, mental alertness, expression and creativeness, knowledge and understanding of sports and above all knowledge and respect for the body. The ancient educational system of India, based on the Yogic traditions, attached great importance to the simultaneous development of the body, the mind and the spirit. Physical Education also has its importance as a vehicle for transmitting social values of attitude and behaviour, cultural and emotional growth and recreation through movement. It also inculcates in young people the desire and the skills necessary for continued participation in sports, recreation and other physical activities. In recent times, physical education and sports have assumed significant importance in the context of life-long education, covering inter-connection of physical education and sports activities at different periods of life, in different situations and for the benefit of different age-groups.

The aims and objectives of both sport and physical education are identical. If at all there is any difference it is that compared with physical education, sport seems to place more stress to preparation for and participation in competition. In a limited number of cases, competition is a central—perhaps even the major—function of sport. In any case both physical education and sport have their own importance and are complimentary to each other. Sport is no longer a pastime and a privilege of the few. It should be the right of every citizen to participate in sport and physical education pragramme. Sport is a powerful tool for forging the team-spirit, helping to integrate the individual into society and fostering the feeling of national identity enhanced by a legitimate pride in victories which reward concerted efforts and the costly sacrifices. There is however need to make physical education and sports programmes attractive, more so in the case of primary students. There is need to provide information to children about the essential functions that sport can perform in restoring the physical integrity of man, which is threatened or weakened by the conditions of contemporary life. There is also need to teach them how to appreciate the importance of the practice of sport as a factor contributing to self-fulfilment and enhancement of the quality of life. There is also need for a national-level enactment on the implementation of sport policy. The parents and teachers too can play a great role imparting proper motivation for sport and physical education.

In the present world, competitive sport has assumed a lot of significance. Even small countries have been able to put up their image effectively through sport. Often it has been seen that the National prestige is considered to be at stake when teams participate in international events to which their country attaches lot of importance.

Physical Educationists have to ensure that adequate time is devoted each week to physical education programme in primary, middle, high and higher secondary schools, colleges and universities. There has to be proper relationship between physical education and other subjects in college curricula. There is also need for equal opportunities in physical education both for boys and girls. There should be provision for awards and rewards to stimulate interest, participation and achievements in college-related sport. Subject teachers should willingly come forward to hold extra classes for students proficient in sports to make up the time lost by them in participating in the competitive sport. Physical Education and sport should also be a compulsory subject in schools and colleges but the compulsory programme should not be on paper alone but should be followed in actual practice. Teachers looking after the programme should have adequate knowledge of the subject Sport schools and Sport colleges have recently come up at a few places and are giving good results. However, there is need to lay more stress on sports in these schools and less on academic side. Those on the rolls of these schools, who do not show good results in sport competitions at the end of the year, should be weeded out and sent to ordinary schools and their places given to others from outside who make achievements despite the fact that they were not fortunate enough to get admission to Sport schools or Sport colleges at the initial stage.

Trained personnel are very important in any field of life. So in physical education, there is need for specialised personnel to teach physical education. The status of physical education teachers vis-a-vis subject teachers has to be at par as recommended several years back by the Central Advisory Board of Physical Education and Recreation. The teaching staff of universities and colleges have been allowed U.G.C. scales of pay long back but unfortunately no decision has yet been taken about those looking after physical education programmes. For professional preparation physical education teachers training institutions should be strengthened and the quality of their product improved. The teacher-pupil ratio in the implementation of physical education programmes in educational institutions should be improved to 1:250.

India is a country of 600

million people and we have been asked so often why inspite of such a massive population we have not been able to make a grade in the field of competitive sports. The answer to this is quite simple. Population is not an asset. It is rather a liability. Our sportsmen and sportswomen are generally from the lower strata of the society and they suffer from mal-nutrition or under-nutrition. They do not have adequtae sports facilities and coaching at the young age when they need them the most Good diet during a couple of weeks at the National Coaching Camps is not going to do them much good. Rather at times it has an adverse effect. In spite of all these difficulties our men athletes have been able to secure first position in the Second Asian Athletic Championships held at Seoul in 1975 and 2nd position in the Asian Games at Tehran a year earlier. At the Montreal Olympics also, the four athletes included in the contingent put up a reasonably good show but that is not enough. If we have to make a grade and catch up with the developed countries, we have to provide infra-structure essential for our sportsmen. What a pity that tartan track was introduced in international sphere several years back but even till this day we don't have a single one in our country. The astroturf was introduced for Mentreal Olympics and our players suffered due to their less familiarity with that type of ground. We also do not have adequate electronic devices and sports equipment of requisite quality for various games and sports. India is exporting sports equipment in good quantity outside but for competitions at the highest level the best equipment is needed and it has to be procured from wherever available and at whatsoever cost.

The SNIPES Board under the Chairmanship of Shri Vidya Charan Shukla, Union Minister of Information and Broadcasting is busy preparing a plan for selecting about 4000 talented boys and girls in the age groups of 11 to 14, 14+to 17 and and 17+to 21 and to provide them best of coaching apart fram free nutritious diet, hostel accomodation, sports kit etc. The scheme will involve an expenditure of a few crores of rupees both recurring and non-recurring but it is hoped that given full support by the Centre and States Govts, it will be a success. The Govt of India is also seized of the question of making adequate preparations for the Asian Games 1982 which are to be held in India and for that a Project Committee has already been set up to work out details. Services of expert coaches, where necessary are being requisitioned from countries abroad and facilities are also being liberally afforded to our coaches to go abroad to have advanced studies We had a very successful International Course on Track and Field at NIS, Patiala in March, 1976 in collaboration with the IOC Solidarity Committee and we are contemplating holding a few more International Courses in the course of next few months. We are also requisitioning the services of expert coaches from countries like USSR for longer duration to help conducting short courses for in-service coaches and preparing our National teams.

The NIS sucessfully organised an International Symposium on 'Physiology of Exercises' in collaboration with UNESCO about 2 years back. Research Fellowships have been awarded for the work in this field and the movement is catching up, though in a steady manner.

There is a universal advance in sporting standards and more than 60 International records were bettered in the Montreal Olympics. With the help of Sports Medicine the top athletes of today possess more muscular strength and cardiorespiratory capacity than their predecessors. Manipulated by biologists, chemists and computer specialists the athlete of today is becoming a Robot machine. While selecting for their preparation for olympics and likewise internatianal fixtures, the countries which are advance in Sports Medicine and Allied Subjects collect comprehensive information about the physiology and strength of the athletes, their past performance, mental attitude, even eating habits and feed all this data into a computer which helps the officials to decide the best chances some of them have in winning gold medals. The computers are also used in those countries to devise special training schedules to assist them in perfecting their techniques. The computers monitor the work-outs for a year or two as necessary and even indicate the particular muscle which requires treatment. Thus to turn out even one sprinter of world class there is a full team of scientists behind. On the contrary in India our athletes have practically no such support. Whatsoever position they have been attaining is more or less due to their sheer determination. Hari Chand though broke the National and the Asian records at Montreal Olympics in 10000M was running bare-footed being not used to run with the spikes. According to a study made by the Defence Institute of Physiology and Allied Sciences, our athletes have 25 to 35% less maximal aerobic power or in simple words their oxygen uptake is about 110 litres as against about 150 liters in top world athletes. Not only this the blood pumped by heart in case of Indian athletes is 24 litres per minute against 36 litres in case of World Champions. Systematic training round the year and proper guidance at the hands of Physical Educationists, Coaches and Sports Medicine Specialists at fairly young age is the only answer to these shortcomings.

Most of the Sports Medicine teachers in our country have only elementary knowledge in this science and they have yet to go a long way to understand properly the complicated requirements of athletes and to be of real help to them. For the development of Sports Medicine and Biomechanics, a lot of sophisticated and costly equipment is needed. There is need for paying due attention to this important aspect and set apart sizeable budget allotment to put up modern laboratories for research in this field so as to be of positive assistance to the field coaches and athletes. Doping in international competitions has been checked to a large extent due to control dy the international bodies through sample checking of competitors. Still the abuse is there, though to a lesser extent, and the possibility of some of the top athletes, weightlifters, swimmers using one drug or the other which cannot easily be detected in checks cannot be completely ruled out. In India some of our top players have suffered due to lack of knowledge on the part of specialists in sport injuries Charles and Micheal Kindo are two recent examples. They were put under the treatment of the Head of the Department of Orthopaedic Surgery in a State Hospital but still there were complaints. It is not that the Surgeons neglected the national players in any way; it may be that they are not very familiar with the type of injuries and their proper treatment. There is need for a Sports Medicine Department to be attached to each Medical College where ample facilities are available to the young Doctors who want to take to Sports Medicine as a carear. There is enough scope in this field and as the games and sports receive more attention in our country, there will be side by side need for Sports Medicine Specialists. There should also be a Sports Medicine Centre attached to each of the sports complexes in State Capitals to begin with, where promt attention is available to the sportmen and sportswomen practising there.

The Sport Medicine research should also look after the nutrition aspect of our sportsmen and that will eventually help in the growth of a healthier nation.

In the Montreal Olympics GDR a small country with a population of 17 millions only rose high to attain second position securing as many as 90 medals which incluled 40 gold. It will be of interest to note that in 1956 Olympics i.e. barely 20 years back, at Melbourne, GDR had secured only 7 medals. Behind their great and miraculous success lies the hard work of 8000 Sports Clubs, 3,00,000 Sports Officials, 1,91,000 Sports Instructors including Sports Medicine Specialists and 93,000 qualified Judge and Referees. The Olympics also brought to highlight the fact of imbalance between the developed and the developing nations on the one hand and between the socialist and non-socialist countries on the other. Significantly the 10 Socialist countries swept the field and won as many as 99 Gold, 104 Silver and 113 Bronze medals as against 99 Gold, 95 Silver and 103 Bronze medals won by the rest of the world. Amongst the remarkable individual achievements, to mention a few, a 14 years old girl from Romania, Nadia Comaneci, created a stir by securing 10 out 10 points on 5 occasions in Gymnastics, Kornelia Ender a 17 year old girls of GDR mustered as many as 4 Gold medals and a silver in swimming. In athletics Lassen Viren of Findland, aged 27, created history by winning Gold medals both in 500M and 10000M after having done so much in Munich as well. One of the Cuban athlete, Alborto Juantorena won Gold medals in 400M and 800M, which was a rare feat.

In the words of the Prime Minister, *Shrimati Indira Gandhi*, "Our young people, men and women, should not rest until they are able to compete with the best athletes of the World on level terms." This places heavy responsibility on all those connected with physical education and sport in one way or the other. I cannot help but making a few suggestion for the early implementation of the Prime Minister's call. These are :

(1) Three main important bodies in the field of sport viz, the All India Council of Sports, The Society for the National Institutes of Physical Education and Sports and the Indian Olympic Association should have a coordinating body consisting of the three heads and this Committee should meet once a month to review the national policy.

2. There should be a separate Ministry for Sport and Physical Education at the Centre with its counterparts in States.

3. The national Sports Federations should, without any reservation, follow the guidelines issued by the Government of India which lays certain restrictions on holding multiple offices. the same offices for unduly long time, calling the annual general body meetings regularly and presenting before these meetings duly audited statements of accounts. They should also realise that their responsibility is not only to send teams aboard or to invite foreign teams but they have also to work at grass-root level to broad-base games and sports. The selections of teams which have to represent the country should be made on the advice of experts and not in a slip-shod manner. The members of the Selection Committees owe a big responsibility and if they do not have ample time to watch the players in action, they should better resign and leave the field to others but equally competent who can easily available. Parallel Federations are doing a great harm to the games concerned and some way has to be found to remedy this situation.

4. The All India Rural Sports Programmes have now an annual

coverage of about 12 lakhs. This should be expanded further to fulfil the target laid down by the Union Educution Minister, which is 1500 Rural Youth per block to which 1/3rd should be girls, with the total coverage of about 80 lakhs a year. The Nehru Yuvak Kendras and the Sports Clubs in rural areas being established should look after it

5. The Women's Sport has so far remained neglected in our country. There is need for the employment of more Women Physical Education Teachers and Women Coaches. The two National Sports Festivals for women recently held have succeeded in arousing sports consciousness amongst the women all over country.

6. The Universities and Colleges should spare on efforts to implement Dr. Deshmukh's Committee Report on Physical Education & Sports. The U.G.C. should be liberal in granting financial assistance for improving physical facilities. The Sport Secretariat of the Association of Indian Universities should be strenthened to help in the organisation of All India Inter-University Meets, Coaching Camps etc. on better lines. Follow-up action on the talent spotted in the All India Meets is very important but requiries a lot of work both in the field and in the office. Within a State, there should be Inter-University and Inter-Collegiate competitions more than once a year. Schools should have inter-School competitions at every week-end. Sports Fund should be used for the purpose for which it is intended.

7. The number and the value of scholarships available under the Sports Talent Search Scholarship Scheme for University, College and School students should be substantially increased.

8. In Juniour Nationals or other meets boys and girls with correct age should only be entered. Here the officials responsible for selections should be honest to the task and do not permit any over age boy or girl to have access to the competitions not intended for them.

9. The Public and Private Sector Section should be generous in offering suitable jobs to the outstanding. sportsmen and sportswomen. After all they make a big sacrifice to strive for victories and deserve to be amply rewarded. There should be no restriction in giving them special leave and other facilities to train themselves round the year.

10. There is a big dearth of literature including text books in the field of Physical Education and Sports. The Physical Education should fulfil the gap. The literature produced should be available in regional languages. Charts on physical exercises and techniques should be available at nominal cost.

11. The Radio, TV and Press should help in popularising games and sports still further. They are already doing a good job but still there is scope for improvement.

12. There should be a regular system to organise refresher courses for in-service Physical Education Teachers and Sports Coaches to bring uptodate their knowledge from time to time. The standdard of umpiring and refereeing in our country is poor and clinics with the help of experts from aboard, if necessary, should be held frequently.

13. Physical Education Teachers should make use of every available opportunity to improve their Professional qualifications. Facilities should be available for their visits abroad for higher studies. Those showing excellent result should be provided due incentives through promotions, advance increments etc.

14. It should be made incumbent on all Physical Education Teachers and Sport Coaches that they should be in proper kit while in the field.

15. Some of our Physical Education Training Institutions are in bad shape. State Govts. concerned should give their attention to improve the existings position.

16. Yoga, though becoming increasingly populal abroad is losings ground in its home country. There is need for a national Institute of Yoga. Yoga teachers going abroad should be well qualified in this important science.

There is a challenge before the Physical Educationists and Sports Coaches and I have no doubt that they will rise to the occasion and before long we shall have a much healthier nation and top class athletes. Let us take a pledge at this seminar that we shall be honest to the noble profession in which we are all involved and will spare no efforts to propagate the programmes of physical education and work with full enthusiasm and dedication with children and young alike to the best of our ability.

[*Excerpts from the inaugural address of Mr. R. L. Anand, Director, NIS, Patiala delivered at the All India Seminar on Physical Education and Sports Medicine held at B.N. Chakravarty University, Kurukshetra.*]

Nag Chaudhuri addresses Kanpur Convocation

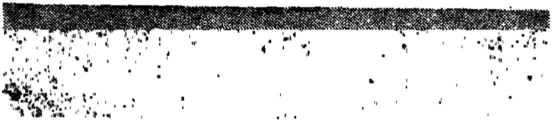
Dr. B.D. Nag Chaudhuri, Vice-Chancellor of Jawaharlal Nehru University, addressed the ninth convocation of Kanpur University. Dr. M.Chenna Reddy, Chancellor, presided.

Dr. Chaudhuri in his address said that the place of university has been central to any scheme of imparting education. It was equally central to the consideration of education as the instrument of reconciliation between change and harmony in a society. He felt that the subject of insecurity, tension and conflict regarding student's and teacher's problems should be studied and not avoided. These problems are due to disparities in our social system. We should therefore try to look into this subject of value more deeply.

The universities were the weekest link in the process of social continuity and between performance and rewards, which has given rise to other inconsistencies. Intellectual leadership of the university should have a meaning for the community so as to help in bringing about a successful process of social change and to be able to produce the desired effect. This can be done by a collective plan of action and a collective will of students and the faculty. He said that if a society evolves, it changes. If it changes, it lives. On the other hand, if a society remains where it is, it is stagnant. Such a society can die. He said that the students do not have a coherent scientific and technological outlook as was expected from them in a socialistic, scientific and technological society.

The Chancellor in his address said that drastic changes were needed in the educational system especially in the university education. He said that the education should be made more strong. The educational growth should be horizontal and not vertical so as to better the standards of the students and teachers alike. He suggested that no further affiliation be given to the residential universities to improve the teaching standards. The universities should not be allowed to exist in isolation and the regional imbalances in universities should not be tolerated. He wanted the universities to have rapport with litterateurs especially from non-Hindi speaking areas.

Shri Bhakt Darshan, Vice-Chancellor of the university said that the university would soon establish a school of journalism and continuing education in the memory of Late Amar Shaheed Ganesh Shanker Vidyarthi.



Bardeen honoured by Delhi

The University of the Delhi held a special convocation to honour Prof. John Bardeen, a noted physicist and a noble laureate.

Prof. Bardeen is a Professor of Electrical Engineering and Physics in the University of Illinois, USA. His innovative and professional original researches on semiconductor led eventually to the invention of the transistor which has lent a new outlook to the subject and widened its horizons.

The Vice-President, Shri B.D. Jatti, Chancellor of the University, conferred the honorary degree of Doctor of Science (Honoris Causa) in recognition of his various contributions in the field of Physics.

Prof. Bardeen in his address called for cooperation among all nations for research to end the world's energy crisis. Science, he said, could still provide answers to many challenges faced by the mankind.

Bengal VCs meet at Burdwan

The Committee of Vice-Chancellors of Universities of West Bengal met under the chairmanship of Dr. A.N. Bose in Burdwan. The meeting was attended by Dr. T.B. Mukherjee (Kalyani), Dr. Ramaranjan Mukherjee (Burdwan), Prof. Amlan Datta (North Bengal), Dr. P.C. Gupta (Rabindra Bharti), Dr. S.K. Mukherjee (Calcutta) and Dr. Kundu, Registrar of Kalyani Krishi Viswavidyalaya. The Problem of evolving uniform syllabi for the undergraduate pass courses in universities was discussed at length. It examined the different proposals and unanimously agreed that universities in consultation with their respective Board of Studies should formulate syllabi subjectwise. The University of Jadavpur would convene the conference of the heads of departments later and formulate the draft syllabi for the approval of the universities concerned. The committee also decided to refer the issue of introduction of new pay scales for non-teaching employees of the universities to the Education Department. It was decided to approach the State Government for the various problems concerning the admission and financial hardships experienced by private colleges following the abolition of pre-university course. It was noted that the enrolment in some colleges had suddenly come down due to this change over. With regard to the honours courses it was decided to collect information from other universities. The next meeting of the committee would be held at Rabindra Bharati University during February.

CAMPUS NEWS

Modern farm technologies planned

A comprehensive programme for the transfer of technology for raising farm production and standard of living in rural areas has been drawn up by the Extension Department of Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur. Dr. D. K. Sharma, Director of Extension of the University said that sufficient technical know-how was available in the country to increase and improve the farmers' economic condition. The university programmes were chalked out with the basic objective to accelerate the process of adoption of modern farm technologies to achieve better yield. The programme worked out at Jabalpur provides for demonstration of new farm technology in selected villages, training of farmers, training of extension workers of the department of agriculture and veterinary science and animal husbandry, setting up of farm information centres, education of men and women in rural areas, correspondence course for young farmers and mass communication of information. He said that the team of experts have already adopted five to six villages adjoining the campus of agricultural colleges in the State at Raipur, Rewa, Sehore, Gwalior, Indore, Mhow and Jabalpur where demonstrations on modern farm technologies were being conducted for the benefit of the farmers. The agricultural information centres are already in operation at Pantnagar. Similar centres were also being proposed to be set up in the adjoining villages of each of the ten research stations located in the State. This will ensure two way flow of information with the financial assistance of the Indian Council of Agricultural Research. The Extension Directorate was also organising national demonstrations in the Rewa and Raipur districts on the farmers fields for taking three crops in a year with a minimum target of eleven tonnes of production per acre. Under this scheme about 1200 demonstrations had been conducted on ths farmers' fields.

Along with green revolution the pace of white revolution should also be geared. The Directorate has also taken steps to popularise artificial insemination of local cows in the adjoining villages. A number of training programmes for the benefit of poultry and dairy farmers had also been organised.

Plant conservatory at Patiala

Mrs. I. K. Sandhu, Vice-Chancellor, Punjabi University, while inaugurating a three-day national symposium on recent researches in plant sciences in the Punjabi University emphasised the necessity for research linked with rural development and improvement of socio-economic conditions of people living below the poverty line both in villages and cities. The Department of Botany has already started a project on the conservation of flora of Punjab and for this purpose the university has established a big plant conservatory on the campus. She also underlined the need for mass production of protein-lysing rich cereals and vagetables which could be made available in plenty as part of general diet of people. Referring to the contributions of plant sciences to the betterment of humanity she said that they had helped in the provision of adequate food mitigation of human sufferings through production of antibiotics and other chemical compounds and provision of clothing. She pleaded for utilisation of knowledge of genetics in breeding better plants and animals for betterment of toiling Indian masses. The symposium was atteneded by eminent plant scientists from about thirty universities and institutions of higher learning in the country.

Adult education as a varsity discipline

Dr. Alan Rodgers of the University of Nottingham was the chief guest at the valedictory function of the training programme on 'Adult Education as a University Discipline'. He advised the educators not only to teach but encourage them to learn. He said that let them build their own curriculum. Let them prepare and give lessons. The job of the educators is to give them guidance and counselling and proper direction.

He said that the adult education students were likely to be older, richer and wiser than the teacher. This was one of the distinctive features of this education. They should consider themselves as learners and not as trained experts. There was no such thing as terminal education and education was transfer of knowledge and what they were creating was learning society where people learned together. They were in the business of continuing learning and they were learning as well. The training programme was sponsored by the University Grants Commission. It was attended by thirtyone participants from different universities of the country and from Malaysia as well.

UP to set up Educational Council

The Uttar Pradesh Government has decided to establish a State Council of Educational Research and Training on the pattern of the N.C.E.R.T. to tackle problems arising during the implementation of new pattern of education. The Council would take up responsibilities such as the development of curriculum and preparation of textbooks. It is hoped that from 1979 the new pattern of education would be implemented in the State. During 1977-78 about forty thousand teachers of the State would be trained in the new system. The training programme for them would be organised by this Council. The implementation of the new system is likely to cost an additional sum of Rupees ten crores. It is expected that the University Grants Commission in the next two years would provide a sum of Rs. 6.21 crores to encourage developmental activities in the State universities. Another sum of rupees five crores is expected to be sanctioned as non-recurring grant for the developmental activities of the State degree colleges.

Madurai plans for open varsity

The Open University programme of the Madurai University was inaugurated by Dr. Malcolm Adiseshiah, Vice-Chancellor of Madras University. The programme has incorporated the best features of the Open University and aims at providing university level education to all Indian citizens aged above twenty five years regardless of their status or previous academic qualification. The university proposes to design home experiment kits at a modest cost and these would be loaned to students who desire to do basic experiments at home Local study centres would also be set up in the 100 affiliated colleges of the university to guide students in utilising the laboratories and library facilities when the colleges did not have regular session. The system is expected to come into force during 1977-78 academic session.

Dr Malcolm Adiseshiah said that this system would be a true learning experience to the scholars to have one's own path of learning suited to the aptitude of the learner. The programme would also help the scheduled castes, scheduled tribes, backward and downtrodden sections of the society who had been kept out of the university so far.

Cells for rural development

The Indian Science Congress Association will soon set up cells of scientists in twenty backward districts to act as catalysts for rural development. This decision was taken at meeting of task force constituted by the association to take follow-up action on the recommendations of the 63rd Science Congress held at Waltair last year on integrated rural development.

Dr M.S. Swaminathan, President of the task force explained the follow-up action taken after scientists resolved to adopt certain districts to bring about integrated rural development. Dr. H. N. Sethna, President of the Congress said that scientists could only act as catalysts to teach villagers how to improve their living conditions by applying various modern scientific techniques. Once this was done, the villagers themselves would have to choose the kind of development they should undertake and implement various schemes accordingly.

The Government has already allotted Rupees fifteen crores in the last budget for development of the twenty backward districts. There had been a good response from various voluntary organisations and the Federation of Indian Chambers of Commerce and Industry to the proposal for undertaking village development.

Mass media to disseminate science information

While speaking at a seminar on science popularisation at the Indian Science Congress, Dr Y. Nayudamma, Director-General, Council of Scientific and Industrial Research, offered to institute a CSIR award for science journalists in India to encourage excellence in science reporting and writing The Council would also be willing to award adequate fellowship to train young journalists in various branches of science writing.

The seminar was organised by the Bharatiya Vigyan Patrika Samiti, Delhi, to focus attention on the need to disseminate science information to the rural areas. Dr. H.N. Sethna presided over the session. He emphasised the necessity for popularising science in villages. The best media for this purpose would be the television, radio broadcasting and films to make villagers grasp scientific techniques. These techniques should be demonstrated through the audio-visual media.

Dr. B.K. Nayar, President of the Bharatiya Vigyan Patrika Samiti said that organisation of science news service was essential to disseminate science information to the mass media. He suggested that some awards and fellowships be instituted for science journalists. He wanted more attention to be paid to the development of science writing in various regional languages.

Institute of Ecology

A multi-dimensional ecology institute is to be set up in Wankaner, about 45 km from Rajkot. The institute would be the first of its kind in the country and will make study and research in the various ecological aspects. Mr. Partap Sinhji, former ruler of Wankaner, has decided to place the 'Amar Vilas' palace costing about Rs. 25 lakhs at the disposal of the institute. The national committee for environmental planning and coordination has accepted the proposal for setting up the institute and detailed schemes are being worked out in this direction. The desert area around the little Rann of Kutch has been the resort of the wild ass population. The two adjoining irrigation dams and the forest complex would provide different ecological region for extensive studies. The institute also proposes to conduct degree courses.

Saurashtra concession for blind students

The students passing the pre-university science examination of Saurashtra University will be eligible for admission to the pre-medical and first year engineering courses. Twenty per cent seats would be reserved for the scheduled castes and scheduled tribes students. The colleges and institutions affiliated to the Saurashtra University would not hereafter charge fee from blind students. Such students would be given half an hour extra time at their examinations. Deserving blind students would be considered for the post of lecturers after the completion of their training.

New sylabi in sociology

Prof. Yogendra Singh, convener of the University Grants Commission's panel on Sociology said in Visakhapatnam that a comprehensive and modern syllabi in sociology would soon be recommended which would be more field-oriented both in teaching and research and would look into the relevant Indian problems. The recommendations of the panel have been finalised on the basis of the four regional conferences held at Chandigarh, Poona, Ranchi and Visakhapatnam. After the approval of the Commission, the Chairmen of the Boards of Studies of the universities would be authorised to take consequential action.

Internal assessment for Jabalpur

The Jabalpur University has introduced internal assessment and grading system in postgraduate examinations commencing from 1977. A proposal for the introduction of question bank at the undergraduate level is also being studied by the sub-committee of the University Evaluation and Planning Board.

The university has provided facilities for tape-recording lectures in post graduate departments of Arts and Social Sciences to assist the students. Compensatory coaching of scheduled castes and tribes students has also been introduced.

The University Grants Commission has provided adequate funds to the university for exploring the possibility of establishing the centre of study for regional development with special emphasis on rural development. The university has decided that departmental research wherever possible should be generally geared to the central theme of regional development with special emphasis on rural development. For this purpose ten junior fellowships have also been instituted.

Fee rise in Pune Varsity

Colleges affiliated to Pune University have been allowed to raise their tuition fees within limits from the next academic year. This provision has been made to enable them to tide over their financial stringencies. The university has one hundred and sixteen affiliated colleges out of which Colleges in Pune city have already effected the fee raise from the current academic year. The rise in the fee in colleges is likely to be from Rs. 100 to Rs. 150. The principals and heads of college managements in the Pune University at a meeting considered the problems of yearly deficits and the bank interest rates levied over the credits. The meeting urged upon the Government to institute cent percent grants against expenditure and to include in the later category many other essential expenses which are not being included so far. A deputation of the managements of colleges will soon meet the State Government authorities to put various alternative proposals for grants-in-aid.

Hooker Award jointly shared

The Hooker Award for 1974-75 for outstanding research work is shared by three scientists-- Dr. Rajendra Prasad, Professor of Agronomy, IARI, Dr. K. N. Saxena, Professor of Zoology, University of Delhi and Mr. B. S. Ramappa, Chief Scientific Officer and Head of Poultry Science, UAS, Bangalore.

Dr. Prasad had carried out experiments to study the relative efficiency of nitrogen carriers for a number of crops like wheat, rice, maize. His researches on rice are stated to be particularly useful to the kharif rice areas of Punjab, Haryana, Eastern U.P. and Madhya Pradesh and the rabi rice regions of West Bengal, Andhra Pradesh, Tamil Nadu and Kerala.

Prof. Saxena did useful research on the physiological basis of insect-plant relationship and its manipulation for pest control.

Mr. Ramappa developed three broiler strains which the ICAR had recommended for use as foundation stock for the breeding programme of the all-India coordinating project on poultry.

The award instituted by the Academic Council of IARI out of the legacy of $ 5000 left by a US journalist, Mr. Richard Hooker, and his wife, is for outstanding research in agriculture leading to increase in food production

New campus for GAU

The Gujarat Agricultural University will soon shift its headquarters to Dandiwada in Sabarkanta district. The university had already opened one of its principal campuses there.

The campus at Dandiwada has an ambitious programme for farm research for arid regions. Some faculties are already working there. A centre for research into the problems of arid and semi arid areas, a livestock research station and a centre for agricultural education and research and a krishi vigyan kendra will start functioning in Dandiwada before the commencement of the next academic session.

Solar energy laboratory

The Nagarjuna University will set up a laboratory to tap solar energy for human use. The university would also provide facilities to make researches into utilisation of agricultural wastes taking into account the needs of Vijayawada and Guntur areas which are predominantly agricultural. Vice-chanceller, Dr. V. Balaiah assured that the university would not subscribe to a particular religion or an ideology but try to promote views backed by rational thinking.

MTech course in Environmental Engg.

The Andhra Pradesh Productivity Council will start M. Tech course in Enviromental Engineering at the Jawaharlal Nehru Technological University, Hyerabad, from the coming academic session.

UGC advisory panels

The University Grants Commission has decided to set up expert committees in the fields of science and humanities. These committees will advise the various universities and their departments which are introducing the M.Phil programme about basic physical facilities and expertise available to them.

Iqbal Chair

To commemorate the memory of Dr. Sir Mohammad Iqbal, the great urdu poet and philosopher and with a view to promoting research on Iqbaliat, the University of Kashmir has created a chair named after him to promote research on his life and philosophy.

Prof. A'le Ahmad Saroor, a noted literary critic and urdu poet has been appointed to hold this Chair. Prof. Saroor will take up this assignment in the first week of March, 1977.

Novel orientation course

The Saurashtra University conducted special orientation course for about five hundred students appearing in the various university examinations. They were provided with specialised guidance from the faculty members to help them. This venture is the first of its kind in Gujarat State.

Bombay sets up Health Services Department

The University of Bombay has decided to set up a Department of Health Services which would carry out research on the different aspects of health services and other allied subjects. The new department would work in collaboration with the Department of Social Sciences and the medical colleges affiliated to the university. Prof. T. K. Tope, Vice-Chancellor has suggested that the Municipal Corporation and the State Government should take active measures to check the pollution in the State which has been a serious health hazard.

Students Participation in University Governance

(*Contd. from page* 58)

provisions in their act and statutes to give representation to the students in the governance of the universities.

The report of the Committee on "Governance of Universities" published by the University Grants Commission in 1971 has expressed the view that there should be greater participation of students in the affairs of universities and colleges, and that the contribution of students in determinig the shape and pattern of academic life can be substantial. It is felt desirable and necessary to promote and strengthen students' participation in the administrative and academic affairs of the university. Partnership of students on various university bodies is a new concept and involves no doubt, a radical departure in the traditional philosohy of university governance.

On analysing the pros and cons of the whole problem of student participation, a view was expressed that it would not be desirable to give students any representation on the Syndicate, nor any useful purpose would be served by giving representation to the students on the Academic Council. But instead, a Students Council could be set up and they could make recommendations to the Syndicate and then, in turn to the Academic Council. It was again pointed out that it is not desirable to give representation to the students on the Faculties or the Boards of Studies. However, it was recommended that there may be a Joint-Teacher-Students-Committee in each faculty so that students may express their views on any important academic question.

It is hoped that Indian universities may evolve a workable scheme for students' participation, based on the situation in the particular region and in the university. ☐

Faculty Status for Librarians

(*Contd. from page* 59)

upon the expertise of the library staff for academic guidance.

Thus, precisely, the academic librarian is the ultimate in scholarship and is the only unfettered clear voice of the aspiration of the academic community, for he is un-encumbered with the responsibility, in most instances, of meeting a class. The entire student body is his class. He is the colleague of all faculty members, for he works in an interdisciplinary mode, bringing all knowledge together, in a variety of formats in the library. If such is the case then why not to consider, like their colleagues in the classroom, college and university librarians as an integral part of the faculty ? Why not allow librarians to exercise effective control over the selection, retention and promotion of their members ? Why should not they be permitted self-determination on the job, draw up their work schedules and engage in evalution of students performance ? Why not to concede their demand of academic work year, the comparable salaries with the faculty, vacations, faculty title and in a nutshell the entire faculty status package ? ☐

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Gupta, Bal Chand. Operators of class m and k-quasi-hyponormal operators. Sardar Patel University.

2. Jain, S. K. Stability of certain magnetohydrodynamic flows. I I. T., Bombay.

3. Kandaswamy, P Internal gravity waves in compressible fluids. Bangalore University.

4. Pan, Umesh Chandra. On some problems of elastodynamics including the study of effects of inhomogeneity and initial stresses. University of Burdwan.

5. Pateriya, Mathura Prasad. Application of transform calculus to the problems of engineering and science. Ravishankar University.

6. Verma, Kamlesh. Analytical studies of some lubrication problems. Kanpur University.

Statistics

1. Das, S. Combinatorial programming. Dibrugarh University.

2. Srivastava, G. L. Some mathematical models in theory of reliability. Dibrugarh University.

3. Sundara Raja, J. Characterisation of multivariate distributions University of Kerala.

4. Virk, Manjit Singh. Contributions to the construction and analysis of confounded factorial and breeding experiments. Punjab Agricultural University.

Physics

1. Daryan, Rajbir Singh. Effect of solid dilution on the crystal field spectra of cobalt and nickel double sulphates single crystals. IIT., Delhi.

2. Dasgupta, Anilhanjan Studies on the Orientation in cornauba wax thermoelectrets. University of Calcutta.

3. Dhar A. K. Deformed configuration mixing shell model studies of the f-p shell nuclei. Gujarat University.

4. George, Varghese. Growth and properties of the sulphides of zinc and antimony. Sardar Patel University.

5. Goel, Chandra Mohan Study of optical and other properties of solids by lattice dynamics. Meerut University.

6. Gupta, Anjana. Propagation of optical beams through graded-index media. IIT., Delhi

7. Gujdar. P. N. Parametrically induced stability and instability in plasmas. Gujarat University.

8. Iyer, K. N. Studies of geomagnetism and ionsophere at low latitudes. Gujarat University.

9. Jagannadha Swami, S. T. P. V Incoherent scattering of gama rays by bound electrons. Osmania University.

10. Jain, Rajendra Kumar. Study of the l-emission spectra of some rare earth elements. Vikram University.

11. Kanhere, D. G. A band structure calculation of electron momentum distributions in some transition metals. IIT., Kanpur.

12. Karunakaran Nair, P. Studies on the dielectric and electronic processes in polymers with special reference to polyvinyl cinnamate and polyvinyl carbazole. I. I. T., Delhi.

13. Karunanidhi, N Kinetic constant in molecular dynamics. University of Madras.

14. Mallik, Prabal Kumar. Electronic spectra of organic molecules. University of Calcutta.

15. Seshi Reddy, Talla. Spectrum shape measurements of some non-unique first forbidden beta transitions. Andhra University

16. Sharma, A. S. Nonlinear dispersive waves and modulational instabilities in plasmas. Gujarat University.

17. Siva Kumar, K. V. Ultrasonic studies in liquids and solutions. Sri Venkateswara University.

18. Suresh Chandra. Study of various empirical and semi-empirical approaches in calculations of inelastic scattering crossections. Meerut University.

19 Thakoor, Anilkumar Prabhakar. Disorder effects on thermopower of copper alloy films. I. I. T., Delhi.

Chemistry

1. Ananta Raman, Veluri. Studies on some substitution reactions of chromium (III). Andhra University.

2. Bhatnagar, Ajay Kumar. Studies on long chain acid esters as lubricants. Meerut University.

3. Bhatnagar, I. K. Studies on vanadium pentoxide catalysts. I. I. T., Bombay.

4 Bhattacharya, Saurindramohan. Physico chemical studies in metal complex formation. University of Calcutta.

5 Biswas, Mukul. Studies on vinyl polymerization. University on Calcutta.

6 Chalapati Rao, C. V. Formation and reactivity of heterocyclic ring systems containing nitrogen: Synthesis of benzimidazoles and quinazolones by condensation and pyrolptic reactions. Osmania University.

7. Channabasavaiah, K. Synthesis of peptides of biological interest. Bangalore University.

8. Desai. P. B. Studies in fluoropyridines, I. I. T., Bombay.

9. Dhandhukia, M. M. Separation of constituents of seabrine evaporites by physical methods and study on the minor constituents of seabrine such as boron and iodine. Gujarat University.

10. Dhawan, Rita. Studies on nitration of protolignin and isolated lignins of bamboo. Denarocala mus Strictus. Meerut University.

11 Garg. Rashmi. Effect of mteallic intrauterine contraceptive device on the chemical composition of female genital tract tissues. Kanpur University.

12. Geetha, C. K. Preparation and properties of aliphatic aromatic poly 1, 3. 4—oraxiazoles. I. I. T., Delhi.

13. Hegde, M. S. Population densities of He I and He II excited states in non LTE helium plasmas. I. I. T., Kanpur.

14. Kalla, A.K. Chemical investigation of iris and datura species and synthesis of some possible estrogenic compounds from the plant sources. University of Kashmir.

15. Keemti Lal. Studies on the chemistry of transition metal complexes of 3 5-dichloro-2-hydroxyacetophenone and its oxime. Meerut Uuiversity.

16. Krupadanam, G.L. David. Chemical investigation of indigenous medicinal plants and related synthesis. Osmania University.

17. Mahapatra, Surendra Nath. Mechanism of redox reactions. Berhampur University.

18. Mandal, Sanat Kumar Uses of some beta-Ketoanilides as reagents in inorganic analysis. University of Burdwan.

19. Mankodi, U.H. Studies in chemical senses : Taste and odor including deodorisation of gases Gujarat University.

20. Mayanna. S.M. Effect of halide ions and benzotriazole on the kinetics of dissolution of copper single crystals. Bangalore University.

21. Mehra, Promilla. Chemical studies on effect of various microorganisms on the major chemical constituents of eucalyptus hybrid. Meerut University.

22. Mitra, Rita. Studies on triglyceride fatty acids from a fresh water fish, Puntius Sarana : Isolation, characterisation and their variation with size. I.I.T., Delhi.

23. Naik, N.D. Studies in complexes of ketoximes and their analytical applications. South Gujarat University.

24. Parthasarathy, N. Studies on the carbohydrate containing proteins of skin, plant and other sources. University of Madras.

25. Patel, S.B. Synthesis of physiologically active and optically active compounds. Gujarat University.
26. Raghypati Rao, Kongat. Reactive intermediates involving dimethylformamide. Vikram University.
27. Ramdas, P.K. Photochemistry of some nitro arenes. University of Kerala.
28. Ramesh, Ravi. Studies on trimethl cellulose and cellulose. Sardar Patel University.
29. Rawal, Jagdish Chandra. Studies on the kinetics and mechanism of oxidation of the lignin, holocellulose and pulp from eucalyptus hybrid. Meerut University.
30. Sanghvi, Kailash Parimal. Studies in the synthesis of furano compounds. M S. University of Baroda.
31. Sharma, Raj Kumar. Physico-chemical studies on the interaction of lawsone (2-hydroxy-4-naphthoquinone) with metal ions (Cu(II) Zn(II) Ca (II), Mn (II) Cd (II), and Fe(III) Meerut University.
32. Thiruvengadam, T.K.Synthetic experiments in furothieno and pyrrolo-(2-3-b) quinolines. University of Madras.
33. Virender Singh. Studies on lead tetraacetate oxidation of organix compounds. Vikram University.

Earth Sciences

1. Krishnarjun Rao, Koka. Petrological study of lava flows and associated dykes around Bakaner, Dhar District. M.P. (India) Vikram University.

Engineering & Technology

1. Arora, K. Optimization of clutter rejection in MTI radar systems. I.I.T., Delhi.
2. Chennakesavulu, N. Petrochemistry and mafic mineralogy of Amjori Sill, Simlipal Complex, Orissa, I.I.T., Bombay.
3. Doraipandy, Sevaithia. A solid state controller for slip ring induction motors. I.I.T., Delhi.
4. Dubey, R.K. Studies on Mussoorie phosphorites and associated rocks in the lesser Himalayas. I.I.T., Bombay.
5. Goyal, H.B. Vapour phase acetylation of acetic acid to vinylacetate. I.I.T., Kanpur.
6. Jayaswal, B.K. Studies in the production of keten from acetone pyrolysis. I.I.T., Bombay.
7. Marwah, B R. Studies in stochastic modelling and simulation of mixed vehicluar traffic. I I.T., Kanpur.
8. Pal, Ajit. Studies on the synthesis of district logic circuits using threshold gates and MOS networks. University of Calcutta.
9. Rajendra Kumar. Breakdown and capacitance properties of some two terminal silicon spitaxial device structures. I.I.T., Delhi
10. Salhotra, Kuldip Raj. Studies on the tuft breakage process in the blow room. I.I.T., Delhi.
11. Srinivasan, R. Quantitative studies in photostability of dyes and fibres. I.I.T., Delhi.
12. Tangnu, Krishen. Kinetic studies on microbial conversion of napthalene to salicylic acid. I.I.T., Delhi.

Additions to A.I U. Library

December 1976

Altbach, Philip G. and Kelly, David H. *Higher education in developing nations : 4 selected bibliography.* 1969-1974. New York, Praeger, 1975. ix, 229 p.

Archer, Margaret Scotford, ed. *Students, universities and society.* London, Heinemann (c 1972) viii, 280 p.

Atal, Yogesh. *Social sciences : The Indian scene.* Delhi Abhinav, 1976 xi, 281 p.

Barkan, Joel D. *African dilemma : University students, development and politics in Ghana, Tanzania and Uganda.* Nairobi Oxford University Press (c 1975) xvii, 259 p.

Barrow, Robin. *Plato and education.* London, Routledge and Kegan Paul, 1976, x, 83 p.

Biswas, A. and Aggarwal, J. C. 10+2+3 *pattern, philosophy programme : Modern development in Indian education.* Delhi, Academic, 1974. 95 p.

Cooley, William W. and Lohnes, Paul R. *Evaluation research in education.* New York, Wiley, 1976. xi, 368 p.

Dietze, Gottfried. *Youth, university, and democracy.* Baltimore Hopkins (c 1970) 117 p.

Evans, Lionel and Leedham, John, ed. *Aspects of educational, technology. V9. Educational technology for continuous education.* London, Kogan Page, 1975. 308 p.

Hall, David. *Geography and the geography teacher.* London, Allen and Unwin, 1976. 318 p.

Hanson, David J. *Lowered age of majority : Its impact on higher education.* Washington, Association of American Colleges, 1975. 46 p.

Hanson, Derek and Herington, Margaret. *From college to classroom : The probationary year.* London, Routledge and Kegan Paul, 1976. viii, 93 p.

India. Committee on Unemployment, 1973. *Report.* Delhi Ministry of Labour and Rehabilitation. 1974. viii, 410 p.

Institute of Applied Manpower Research, Delhi. *Engineering Manpower : Educational and training preparation of technicians-a memorandum.* Delhi, Author, 1967. iv, 73 p.

————————. *Guide to educational and training statistics.* Delhi, Author 1970. viii, 87 p.

————————. *Wastage in Indian school education : A review and further analysis.* Delhi Author, 1972. 32 p.

International Labour Office, Geneva. *Role of universities in workers education : Report of a symposium.* Geneva Author, 1974. 216 p.

Lawler, Edward E. *Motivation in work organization.* California Brooks-Cole (c 1973) vii, 224 p.

Lessinger, Leon and others *Accountability : Systems planning in education.* Illinois, ETC (c 1973) xiii, 242 p.

Matejko, Alexander J. *Overcoming alienation in work.* Meerut, Sadhna, 1976. viii, 340 p.

Narindar Singh. *Economics and the crisis of ecology.* Delhi, Oxford University Press, 1976. xii, 154 p.

Nash Roy. *Teacher expectations and pupil learning.* London, Routledge and Kegan Paul, 1976 viii, 89 p.

Parekh, Satish B. *Long range planning model for colleges and universities.* New York, Phelps-Stockes Fund, 1975 44 p.

Paris, O.E.C.D. *Reviews of national science policy : Ireland.* Paris, Author (c 1974) 130 p.

Peters, R. S., ed. *Role of the head.* London, Routledge and Kegan Paul, 1976. vii, 136 p.

Pincoffs, Edmund L., ed. *Concept of academic freedom* London University of Texas Press (c 1975) xxiv, 272 p.

Ross, Murray G. *University : The anatomy of academe.* New York, McGraw-Hill (c 1976) xii, 310 p

Sen, Sudhir. *Reaping the green revolution : Food and jobs for all.* Delhi, Tata McGraw-Hill, 1976. xx, 397 p.

Turner, John D. and Rushton, J., ed. *Teacher in a changing society.* Manchester, Manchester University Press (c 1974) 98 p.

Van Zeyl, Cornelis J. *Ambition and social structure.* Lexington, Heath (c 1974) 240 p.

UNIVERSITY OF DELHI

Advt. No. Estab. IV/39/77

Applications on the prescribed form are invited for the following posts :

S. No.	Department	Designation & Areas of Specialization
1.	Philosophy	One Professor in Nyaya/Mimamsa or Analytica Philosophy or Phenomenology.
2,	Mathematics	i. One Professor ii. One Reader in Abstract Algebra.
3.	Operational Research	i. One Reader ii. One Reader in Theory of Queues and Storage System. iii. One Lecturer (Temporary upto 17. 8. 1978)
4.	Economics	One Professor in Economic Theory/Industrial Economics.
5.	Physics & Astrophysics	i. One Professor (Centre of Advanced Studies) ii. Readers(one permanent & others temporary) iii. Four Research Associates (Centre of Advanced Studies) iv One Technical Assistant (Temporary but likely to continue). v. One Junior Laboratory Assistant vi. Two Instrument Mechanics (One temporary but likely to continue and another purely temporary).
6.	Chemistry	i. Two Professors (Centre of Advanced Studies) ii. Three Readers (Two for Centre of Advanced Studies) iii. One Technical Assistant (Temporary but likely to continue).
7.	Arabic & Persian	One Reader in Modern Arabic
8.	Library Science	One Reader
9.	Faculty of Law : Evening Law Centre No I	One Part-time Lecturer
10.	Delhi University Library System	i. Professional Seniors ii. Professional Juniors
11.	Modern European Languages	One Assistant
12.	Modern Indian Languages	One Lecturer in Manipuri

The Scales of pay of the posts are :

1.	Professor	: Rs. 1500-60-1800-100-2000-125/2-2500.
2.	Reader	: Rs. 1200-50-1300-60-1900.
3.	Lecturer	: Rs. 700-40-1100-50-1600.
4.	Research Associate	: Rs. 700-40-900-EB-40-1100-50-1300.
5.	Part-time Lecturer	: Rs. 500/-p.m. (fixed) for work load ranging from 3-6 hours per week. Rs. 750/-p.m(fixed) for work load Ranging from 7-10 hours per week.
6.	Technical Assistant	: Rs. 425-15-500-EB-15-560-20-700.
7.	Jr. Lab. Assistant	: 260-8-340-EB-10-380-EB-10-430.
8.	Instrument Mechanics	: Rs. 425-15-560-EB-20-640.
9·	Professional Seniors	Rs. 700-50-1250. } likely to be revised
10.	Professional Juniors	Rs. 400-40-800-50-950. } likely to be revised
11.	Assistant	: Rs. 330-10-380-EB-12-500-15-560.

All posts carry D. A., C C. A. and H.R.A. as admissible under the rules in force in the University from time to time.

I ESSENTIAL QUALIFICATIONS FOR :

1. **Professorships :**

A Scholar of eminence.

Independent published work of high standard and experience of teaching Post-graduate classes and guiding research for a considerable period desirable.

2. **Readerships :**

Good academic record with First or High Second Class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with atleast 5 year's teaching experience in Honours/Post-graduate classes essential.

3. **Lectureships :**

Consistently good academic record with a First or High Second Class (B+) Master's Degree or an equivalent degree of a foreign University in the subject concerned.

Desirable (in order of preference) :—

i. A Doctor's Degree/or Evidence of research work of equivalent standard in the subject concerned.

ii. Teaching experience of Degree/Post-graduate Classes.

Provided that if a teacher is not a Ph. D. at the time of his/her appointment and does not qualify himself/herself for the award of Ph. D. Degree from a recognised University in the subject which is being taught by him/her within the period of five years from the date of his/her appointment or does not give evidence of research work of equal standard within that period in the subject concerned, he/she shall not be entitled to any future increments after the expiry of the said period of five years till such time he/she fulfils the above mentioned requirements.

4. **Part-time Lecturer in Law :**

Good academic record with First or High School Class Bachelor's or Master's Degree in law, practice at the Bar for at least 5 years of which at least 3 years should have been in the Trial Courts.

Provious teaching experience desirable but not essential.

5. **Research Associates :**

Consistently Good academic record with First or High Second Class (B+) Master's Degree or an equivalent degree of a foreign University in Physics.

Note :—Initial appointment will be for a tenure period of three years extendable by another two years only. In no case the tenure will extend beyond 5 years in all.

6. **Technical Assistants :**

Graduate in Science. Experience in Laboratory Techniques of the subject.

7. **Junior Laboratory Assistant :**

Matric or equivalent Examination with Science subjects.

8. **Instrument Mechanics :**

Must be thoroughly conversant with all types of lathe work facing, surfacing, turning. multiple screw cutting (including various forms of screw threads), tape and curved turning, etc. Should be able to work on other workshops machines like shaper, milling and drilling, etc. Ability to repair laboratory instruments like Galvanometers Stop Clocks and Watches desirable.

9. **Professional Seniors :**
   - (A) 1. First or High Second Class B. A, B.Sc./B.Com. and First or High Second Class M.Lib.Sc.;

     OR

     2. First or High Second Class M.A./M.Sc./M Com. and First or High Second Class B. Lib. Sc ;

     OR

     First or High Second Class Post-graduate Diploma Course;
   - (B) Active interest in academic and research work supported by papers or projects of merit.
   - (C) At least 5 years' experience as Librarian or of working *in a responsible capacity* in an academic library where he has proved his initiative in organisational & administrative ability.

10. **Professional Juniors :**

    First or Second Class B.A./B.Sc./B.Com. *plus* First or Second Class M.Lib. Sc. Degree;

    OR

    First or Second Class M.A./M.Sc./M.Com. Degree and First or Second Class B. Lib. Sc. or Post-graduate Diploma in Library Science.

11. **Assistant in Modern European Languages Department :**
    - i. Bachelor's Degree from a recognised University;
    - ii. Advance Diploma in Russian *with Distinction;*
    - iii. Good knowledge of Russian typing;
    - iv. Some experience of office work pertaining to Russian Language as well.

    Note :— The candidates will be required to qualify in the prescribed tests.

II. SPECIAL/DESIRABLE QUALIFICATIONS FOR :

1. **Professorship in Philosophy :**
   - (a) For those who have specialized in Nyaya/Mimamsa; Sound knowledge of original Sanskrit texts and good *grounding in* modern logic.
   - (b) For those who have specialized in Analytical Philosophy; good knowledge of Symbolic/Indian logic.
   - (c) For those who have specialized *in phenomenology;* Sound knowledge *of original* works and good grounding in analytical philosophy/modern logic.
2. **Professorship in Mathematics :** Specialization in Combinatorial Mathematics will be preferred.
3. **Readership in Library Science :** Experience in a responsible Professional Capacity in addition to the five years teaching experience
4. **Professional Juniors :**
   - i. Candidates possessing High Second Class with 55% of marks and above will be preferred.
   - ii. Ph.D. in Physics, Chemistry, Mathematics, Zoology or Botany would be an additional *desirable qualifications.*

The prescribed application form can be had from the **Information Office** of the University either personally or by sending a self-addressed envelope (5"X 11") with postage stamps worth Rs. 2.55.

Selected candidates will have to produce the original documents relating *to their age, qualifications, experience,* etc. at the time of interview.

Application (Separate for each post) accompanied by attested copies of Degrees, other certificates, mark-sheets, published research articles, etc. should reach the undersigned not later than **7th FEBRUARY 1977.**

Note : 1. It will be open to the University to consider the names of suitable candidates who may not have applied. *Relaxation* of any of the qualifications may be made in exceptional cases, *in respect of all posts on* the recommendations of the Selection Committee.

2. Canvassing in any form by or on behalf of the candidates will disqualify.
3. *Candidates from outside Delhi* for Teaching posts, called for interview, will be paid contribution towards travel expenses equivalent to 1½ single Second Class Rail fare.
4. Certain percentage of posts in the cadres of *Non-teaching*, are reserved for Scheduled Castes.

sd/-
Registrar
University of Delhi
Delhi-110007

BIDHAN CHANDRA KRISHI VISWA VIDYALAYA, MOHANPUR WEST BENGAL

Advertisement No. Rect. /1/77

Applications in prescribed forms with the followihg qualifications are invited for the post of

DEAN, FACULTY OF VETERINARY & ANIMAL SCIENCES

In the scale of Rs. 1500-60-1800-100-2000-/25/2-2500/-plus Rs. 250/- as Special Allowance with the benefit of C. P. F. and other allowances as admissible under Viswa Vidyalaya rules :

QUALIFICATIONS

Essential : (i) Doctorate in Veterinary/Animal Sciences/Dairy Sciences or in any of the Sciences basic to these or published work of an equally high standard;

(ii) Consistently good academic record with Ist or high 2nd class (B+) Master's degree in relevant subject as in (i) above or an equivalent degree of a foreign University;

(iii) Ten years experience in *Teaching/Research* in any of the fields indicated in (i) above;

(iv) Ability to organise and administer under-graduate and postgraduate programmes of study.

Age : *Preferably below 50 years.*

Experience and age limit may be relaxed on the recommendation of the Selection Committee in the case of a candidate otherwise well qualified. A high initial pay in the scale may be granted on the basis of qualifications. *experience and present emoluments.*

Selection will not necessarily be con*fined to those who will apply formally.*

Applications must be submitted in *the prescribed form which* may be obtained from the OFFICE OF THE REGISTRAR, BIDHAN CHANDRA KRISHI VISWA VIDYALAYA, P. O. MOHANPUR, DIST. NADIA, WEST BENGAL personally or by sending self addressed stamped (0.25) paise envelope (25 CMX12 CM) ON PAYMENT OF RUPEES EIGHT (Rs 8.00) only for the posts BY CROSSED INDIAN POSTAL ORDER in favour of the BIDHAN CHANDRA KRISHI VISWA VIDYALAYA. Persons already in employment should apply through *proper Channel Candidates may* also apply on plain paper with necessary Postal Order. Applications, completed in all respect should be submitted in an envelope superscribed with the name of the post and must reach the OFFICE OF THE REGISTRAR BY THE **15th February, 1977.**

Candidates may be called for interview, *if necessary. In that case, they* will have to appear for the same at their own cost.

REGISTRAR

UNIVERSITY OF INDORE, INDORE

University House,
Indore-452001.

No. Esst./III(1) 77. Dated 14th Jan. 1977

Advertisement

Applications on the prescribed form obtainable from the University office on payment of Rs. 3/- (in the shape of Crossed Indian Postal Order), are invited for the post of Professor of Economics in the scale of Rs. 1100—50—

1300—60—1600/- (Likely to be revised) with D A. & C.P.F. benefits as per the University Rules. A higher start can be given to deserving candidate.

2. **Qualifications** :—

(i) A first or second class Master's degree of an Indian University or an equivalent qualification of a foreign University in the subject concerned.

(ii) Either a degree of the doctorate standard or published work of high standard.

(iii) Not less than 10 years experince of Post-graduate teaching & experience of successfully guiding research.

(iv) Should have specialisation in Econometrics or should possess adequate knowledge of Statistical/Mathematical Economics either through training or research.

In the case of a candidate of exceptional merit the Executive Council may, on the recommendations of the Selection Committee and with the prior approval of the Khuladhipati, relax any of the qualifications.

3. Preference will be given to Scheduled Caste and Scheduled Tribe candidates if found suitable Candidates already in service should apply through proper channel.

4. Applications (8 copies) duly filled-in and accompanied with crossed Indian Postal Order of Rs. 10/- should reach the undersigned on or before **28th February 1977**, the envelope being superscribed as "Application for Professor in Economics."

5. The University reserves the right to fill-up or not to fill-up the post and/or to call only selected candidates for interview at their own cost.

A.G. Sharma
Registrar

UNIVERSITY OF SAUGAR

Advertiscment No 4/76

Applications in the **prescribed** form, obtainable from the office of the Registrar, University of Saugar on a requisition accompained by a self-addressed envelope and a postal order of Rs. 5/- for the following post, are invited on or before **20th February, 1977**.

2. Candidates already in service should send their applications through proper channel An advance copy, however, may be sent direct.

3. Candidates selected for interview will have to come to Saugar at their own expenses and bring with them original research papers, degrees etc

4. The University reserves the right to negotiate on the recommendation of the Selection Committee to negotiate with a suitable person/persons. if necessary who may not have applied.

One Temporary Assistant Professor—Department of Anthropology & Sociology (**upto 25.6.78**).

Pay Scale : Rs. 400-40-800-50-950.

Qualifications :—(a) A first or second class Mastee's Degree of an Indian University or equvalent qualification of a foreign University in the subject concerned.

(b) A research degree in in the subject concerned or experience of teaching degree and/or post-graduate classes will be desirable qualification.

(c) Knowledge of Hindi will be desirable.

(d) Applicant must have a consistently good academic record.

(e) Candidate must have a **Specialisation in Social Anthropology/Sociology of Development.**

B.B. Khare
REGISTRAR

GUJARAT UNIVERSITY

Applications are invited in the prescribed form available from the Registrar Gujarat University. Ahmedabad-380009 so as to reach him on or before **28th February 1977** for the following posts in the University Schools :—

1.	Professor of Physics (Ionosphere)	one post
2.	Professor of Sociology (Research Methodology)	one post
3.	Professor of Political Science (Regional Politics)	one post
4.	Professor of History	one post
5.	Professor of Hindi	one post
6.	Professor of Sanskrit	one post
7.	Professor of Textile Chemistry	one post
8.	Professor of Analytical Chemistry	one post
9.	Professor of Polymer Science	one post
10.	Professor of English	one post
11.	Professor of Gujarati	one post
12.	Professor of Physics	one post
13.	Reader in Chemistry (Theoretical Chemistry/Physical/Inorganic Chemistry/Solid State Chemistry	one post
14.	Reader in Physics (Theoretical Solid State Physics)	one post
15.	Reader in Botany (Microbiology)	one post
16.	Reader in Zoology (Reproductive Physiology Cytogenetics)	Two posts
17.	Reader in Mathematics	one post
18.	Reader in Statistics (Applied Statistics (Applied Statistics operations Research)	one post
19.	Reader in Economics (Econometrics/Quantitative methods)	Two posts
20.	Reader in Sociology	one post
21.	Reader in Political Science	one post
22.	Reader in Labour-Welfare	one post
23.	Reader in History	one post
24.	Reader in Psychology	one post
25.	Reader in Philosophy	one post
26.	Reader in Gujarati	one post
27.	Reader in English	one post
28.	Reader in Language Laboratory for English & Foreign Languages	one post
29.	Reader for Centre for Management and Professional Training	one post
30.	Reader in Persian	one post
31.	Reader in Law	one post
32.	Reader in Textile Chemistry	Two posts
33.	Reader in Analytical Chemistry (one for Micro-Analysis) (one for Bio-Pharmaceutical)	Two posts
34.	Reader in Polymer Science	Two posts
35.	Reader in Education	one post
36.	Reader in Chemistry	one post
37.	Lecturer in Botany (Ecologoy)	one post
38.	Lecturer in Botany	Two posts
39.	Lecturer in Mathematics	one post
40.	Lecturer in Economics	one post
41.	Lecturer in Labour Welfare	one post
42.	Lecturer in History	one post
43.	Lecturer in Gujarati	Two posts
44.	Lecturer in Linguistics	one post
45.	Lecturer in English	Two posts
46.	Lecturer in Hindi	Two posts
47.	Lecturer in Sanskrit	one post

48.	Lecturer in Language, Laboratory for English and Foreign languages	one post
49.	Lecturer in Tamil	one post
50.	Lecturer in Microbiology	Two posts
51.	Lecturer in Computer Science	Two posts
52.	Lecturer in Law	Two posts
53.	Lecturer in Geography	Two posts
54.	Lecturer in Textile Chemistry	Three posts
55.	Lecturer in Analytical Chemistry (one for Electronics/Electrical Engineer)	Two posts
56.	Lectuter in Polymer Science	Three posts
57.	Lecturer in Zoology	one post

Note :—For posts No. 9,34 & 56. Preference will be given to candidates having Engineering-Technology back ground.

PAY SCALE :—Professor Rs. 1500-60-1800-100-2000-125/2-2500.
Reader Rs. 1200-50-1300-60-1600-assessment-60-1900.
Lecturer Rs. 700-40-1100-50-1300- assessment 50-1600.

A *Copy of the rules governing minimum qualifications can be obtained on* request.

The above posts carry Dearness Allowance and other allowances as per the rules of the University. The benefits of either Provident Fund and Gratuity or pension will be admissible as per the rules of the University in force from time *to time. The candidates selected for the above posts shall have to learn the* Gujarati language during the period of probation. Application form can be had *on payment of Rs. 2/- payable in advance either in cash or by money order or* by postal order.

K C. PARIKH
UNIVERSITY REGISTRAR

UNIVERSITY OF JODHPUR
JODHPUR

Advertisement No. 21/76

Applications are invited for the following posts :

1. **Professors** : (1) English (2) Hindi (3) Philosophy (4) Sanskrit (5) Economics (6) Geography (7) Chemistry (8) Botany (9) Law (10) Commerce.

Scale of pay : 1500-60-1800-100
2000-125/2-2500

2. **Readers** : (1) English (2) Sanskrit (3) History (4) Philosophy (5) Economics (6) Political Science (7) Chemistry (8) Zoology (9) Botany (10) Mathematics (11) Geology (12) Commerce (13) Civil Engineering (14) Structural Engineering (15)Mechanical Engineering (16)Mining Engineering (17) Law.

Scale of Pay : Rs. 1200-50-1600-60-1900.

3. **Lecturers** : (1) English (2) Hindi (4) History (5) Philosphy (6) Music (7) *Sanskrit* (8) *Home Science* (9) Economics (10) Political Science (11) *Sociology* (12) *Geography* (13) Psychology (14) Physics (15) Statistics (16) *Zoology* (17) Botany (18) Geology (19) Commerce (20) Civil Engineering (21) Structural Engineering (22) Mechanical Engineering (23) Electrical Engineering (24) Mining Engineering (25) Law. Scale of Pay : 700-40-1100-50-1600.

4. **Assistant Registrar** : Scale of Pay : Rs. 750-30-1020-40-1300-50-1350

5. **Research Fellow in Commerce** : Scale of Pay : Rs. 350-25-600.

6. **Research Assistant in Commerce** : Scale of Pay : Rs. 300-25-350

7. **Stenographers** : Scale of Pay : Rs. 460-10-490-20-770.

Application forms alongwith details of qualifications/specialisations ect. can be obtained from the undersigned for which a crossed Indian Postal Order for Rs. 2/- endorsed in favour of the Registrar, University of Jodhpur, Jodhpur payable at Jodhpur be sent alongwith a self-addressed envelope of 24 x 11 cms. size bearing postage stamps of 0.85 paisa. The last date for receipt of application is **7th February**, 1977. The Vice-Chancellor may at his discretion condone delay in receipt of applications.

Those who have already applied in response to Advetisement No. 5/76 or any other advertisement referred to therein need not apply again. However, in view of the modification in qualification for recruitment, the application will be scrutinised in the light of the revised qualifications adopted by the University. The University will call for interview only limited number of candidates. No T.A. and D.A. will be given to the candidates who are called for interview.

REGISTRAR

Personal

1. Dr. Amrik Singh Cheema, formerly Adviser to the Union Ministry of Agriculture, has been appointed Vice-Chancellor of Punjab Agricultural University, Ludhiana.
2. Dr. P. S. Lamba, Vice-Chancellor, Udaipur University, has been elected President of the Indian Society of Agronomy.
3. Dr. A. K. Dhan has been appointed Vice-Chancellor of Patna University.
4. Mr. M. A. M. Gilani has been appointed Vice-Chancellor of Bhagalpur University.
5. Dr. Shaligram Singh has been appointed Vice-Chancellor of Ranchi University.
6. Dr. R. C. Mehrotra, Vice-Chancellor, University of Delhi, has been elected General President of the Indian Science Congress for the 1979 session.
7. Dr. A.B. Joshi has been appointed Vice-Chancellor of Mahatma Phule Krishi Vidyapith.
8. Shri S.D. Gogoi has been appointed Vice-Chancellor of Dibrugarh University.
9. Prof. T.K. Tope, Vice-Chancellor, University of Bombay, has been elected as the Chairman of World University Service, Bombay Committee.

Dear Subscriber

From January 1, 1977 the journal is posted on Ist and 16th of every month. If you do not have your copy for any issue by the mailing date of the next issue please write to us for replacement. Requests received later than that will not be entertained. Available back issues can be had as per prescribed rates.

UNIVERSITY OF POONA

Applications are invited for the undermentioned posts in the various Departments of the University :—

I. **Professors** : 1 English : (Language, Stylistics and Language Teaching) (One), (Literature), (One), 2. German : (Language and Literature) (One), 3. Linguistics : (Applied Linguistics for Centre of Advanced Study in Linguistics in Leave Vacancy) (One), (Specialization in Indo-European studies and Sanskrit Lexicography) (One), 4 Philosophy : (Seth Hirachand Nemchand Professor in Jain Philosophy) (One). 5 Archaeology: (Specialization in either Historical Archaeology or Pre-Historic Archaeology) (One), 6. Sociology : (Research Methodology) (One). 7. Journalism (One), 8. Chemistry : Organic Chemistry) (One), (Bio-Chemistry) (One). (Inorganic Chemistry) (One) (Physical Chemistry) (One). 9. Physics : (Material Science Opto-Electronics) (One). (Theoretical Solid States Physics) (One). 10. Botany : (Two—One in Experimental Botany). 11. Zoology : (Two One in Entomology) 12 Mathematics & Statistics : Lokamanya Tilak Professor) (One). 13 Geology (One). 14. Geography : (Two - One in Geomorphology).

II. **Readers** : 15. English : (Language) (One). (Literature) (One). 16. Russian : (One). 17. Marathi : (Two). 18. Hindi : (Two). 19. Linguistics (One). 20. Sanskrit & Prakrit Languages : (Veda and or Srauta) (One) 21 Philosophy : (Two-One at Pratap Centre, Amalner). 22. Defence Studies : (One), 23 Library Science : (One). 24. Law (One). 25. Physics : (Instrumentation) (One). (Radiation - Physics and Chemistry or Radiology and Biophysics) (One). 26. Zoology : (One). 27. Geography . (One) 28. Mathematics : (One)

III. **Lecturers** : 29. Politics (One), 30. Physics : (Two), 31. Statistics : (Three). 32. Philosophy : (One). 33. History : (One) 34 Law : (One).

General Qualifications :

(1) **Professor :** Must be scholar of eminence. must have to his credit research work of independent merit. must possess fairly long experience of teaching of Post-graduate classes and guiding advance research in the respective subjects.

(2) **Reader :** Must possess fairly long experience of teaching of Post-graduate classes and guiding research in the respective subjects.

(3) **Lecturer :** Must have a Doctor's Degree or published work of an equally high standard and consistently good academic record with First or High Second Class. (B+) Master's Degree in a relevant subject or an equivalent Degree of a foreign University.

Minimum Qualifications

Professor and Reader : As prescribed by the University for recongnition as Post-Graduate Teacher (by Research).

Lecturer : As prescribed by the University for recognition as Post-Graduate Teacher (by Papers).

Scales of Pay :

Professor : Rs. 1100-50-1300-60-1600.
Reader : Rs. 700-50-1250.
Lecturer : Rs. 400-40-800-50-950.

These scales are likely to be revised.

All posts carry usual allowances admissible under University rules in force from time to time.

Age Limit :

Candidates applying for the posts of Professors should ordinarily be below the age of 50 years, those applying for the posts of Readers should ordinarily be below the age of 45 years, those applying for the posts of Lecturers should ordinarily be below the age of 35 years. However, this age limit may be relaxed in the cases of deserving candidates.

Eight copies of applications together with the eight copies of testimonials, if any, separately for each post, giving particulars in the prescribed form should be sent to the Registrar so as to reach him not later than the **15th February. 1977**.

The prescribed set of application forms, together with requisite detailed information, will be supplied to the candidates, on request accompanied by (1) a self-addressed envelope (23 cm. × 10 cm.) bearing postal stamps worth 85 paise for the postage, and (2) a postal order of Rs. TEN drawn in the name of Registrar, separately for each post. This amount will also be accepted in cash in the University Office.

The applicants, in their letters, asking for set of application, must specify (i) the name and (ii) the serial number of the post, for which they want to apply.

The selected candidates will be on probation for a period of two years and will be required, on confirmation, to contribute to the University Provident Fund and to enter into an agreement of service with the University. They will also have to pass a test in elementary Marathi, at the time of confirmation, if Marathi is not their mother-tongue.

Notes :—1. Those who are employed must submit their applications through the proper channel.

2. Some of the conditions may be relaxed in the case of exceptionally capable candidates.
3. Candidates called for interview will have to present themselves for an interview at their own expense.
4. Canvassing, direct or indirect, will be a disqualification
5. In the case of lecturers, other things being equal, preference will be given to candidates belonging to Scheduled Castes (includ- Scheduled Castes converts to Buddhism) and Scheduled Tribes.
6. Higher starting salary may be given to deserving candidates.

G.J. Abhyankar
University Registrar

Ganeshkhind, Poona 7.
Ref No. BUTR S.O./118
Date : January 5, 1977

ALIGARH MUSLIM UNIVERSITY ALIGARH

Advertisement No. 28/76-77

Applications are invited for the following posts under a Research Project entitled "Measurement of Agricultural Productivity to delineate areas of High & low Agricultural Productivity in order to reduce regional imbalances". Department of Geography. The appointment will be made for the duration of the Project.

1. **Research Associate, Department of Geography. Salary Rs. 700/-per month fixed (all inclusive).**
   Qualifications : Consistently good academic record with first or high second class (B+) Master's Degree in Geography of an Indian University or an equivalent degree of a foreign University
   Desirable : Some experience of teaching/research.
2. **Field Assistants, Geography Department. Salary Rs. 500/-per month fixed (all inclusive).**
   Qualifications : A first or high second class Master's degree in Geography Statistics Economics. Experience of conducting and guiding different types of Socio-Economic Surveys and knowledge of topographical and thematic maps

Prescribed application forms and instructions may be had from the Deputy Registrar (Executive) either personally or by sending a self addressed envelope of 23 × 10 cm. Last date for receipt of applications is **15th February. 1977**. Incomplete applications and those received late may not be considered. Candidates interviewed may be paid contribution towards their T.A. equal to one single second class railwayfare only.

Jamalur Rahman
Registrar

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